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a new daughter but, as she said, one could not expect a dainty little girl to make her appearance in the woods. "Timberjack Jim," his father called him, while "Birchbark Bill" and "Tamarack Pete" were suggested. The period of convalescence was pleasant. With windows and doors always open, fire in the grate, wild game and fish, pure milk and butter from the settlers on the opposite shore, my patient gained rapidly and was thankful many times to be away from the city. The second day that she sat up, I drew her chair out onto the porch. Little "Timberjack Jim" was truly a fresh air baby, sleeping in his birch-bark basket, breathing the pure sweet air of the woods.

I cannot refrain from mentioning the moonlight nights, when, if the baby called me, I was really glad to be awakened for the opportunity of seeing the moon's reflection in the water, or, in the early morning of seeing the first long shadows of the trees, though the sun itself was hidden by the forest. Sometimes the cry of the loon, that lonely cry, would be heard. The squirrels scolded as though we were intruders and we could hear them scampering over the roof. The little chipmunks were more cordial, even starting to come into the house.

The doctor spent almost two weeks at the camp, fishing and hunting, not thinking of office and telephone. The whole experience was so unusual and delightful that I felt at least a review of it should be shared with the JOURNAL readers.

CARE AND MANAGEMENT OF TYPHOID FEVER *

BY GRACE O. VANDEVER, R.N.

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TYPHOID fever is a disease in many ways out of the ordinary, and the nurse in assuming charge must recognize this point. Granting that the physician has looked well into the source of infection and has acquainted the family with the result of his findings and with the etiology and prophylaxis, it is well, and, more, his duty, to fully acquaint the nurse with the details as given the family, in order that she may more intelligently assist the family and more fully co-operate with him in the care and management of the case and the family, for while the first is usually sufficiently hard, the latter is often even more difficult.

With this as a foundation for the care of the case, we must proceed

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on as economical a plan as possible, for typhoid fever is always expensive, care for the case in any way that we may, and we should not be unmindful of this fact. Granting that the physician has provided against further contamination of food or water, we turn our attention to the selection of a room, which should be upstairs if possible, because of the increased purity of the atmosphere and freedom from dust, noise, odors from cooking, etc. But if this is not practical then a room downstairs will have to be selected. This should be as far isolated from the part of the house occupied by the family as possible, in order that the nurse need not pass through other rooms in going to and from her source of supplies and for the disposal of the waste from the sick-room. An abundant amount of sunshine is absolutely essential, and the ventilation must be continuous and so arranged that the air from the sick-room will not pass through other rooms. To guard against this it is well to hang a sheet wet in a disinfectant inside the closed door. An adjoining room should be set aside in which medicines, utensils, etc., can be kept out of sight of the patient. When the room is prepared for the patient and before he is taken into it, we should remove all unnecessary furniture, rugs, ornaments, draperies, and clothing, and exchange all valuable articles of furniture for such as will not be destroyed by the use of disinfectants. If the patient is already in the room, nothing should be taken from it without first being disinfected. All superfluous and unnecessary articles may be put away in a cupboard or drawer and disinfected when the room is fumigated after the case is over. The bed should be of the single or three-quarter size, the springs and mattress being at least thirty inches from the floor and placed so as to be accessible from at least three sides, away from the door and in such a position that the light from the window falls pleasantly upon it. This type of bed is not often found in the private home, but one equally as good can be improvised at a small cost by using an ordinary spring cot and under each end putting a trestle made of smooth pieces of wood, and of such height as to raise the mattress the distance from the floor already indicated.

The patient should have a daily cleansing bath and change of bed-clothing. All dust-cloths and brooms used about the room should be wet in a 1-20 carbolic solution. All secretions and excretions may be a source of infection. The secretions from the nose and throat which are usually collected on handkerchiefs should be collected on pieces of old muslin or linen and burned, not washed. Expectoration should be expelled into small pieces of tissue paper and immediately destroyed by fire. The gowns and bedding which are contaminated by perspira-

tion and possibly by urine should be thoroughly soaked in a 10 per cent. solution of carbolic acid before they are washed and boiled. The urine and feces are a most dangerous source of infection. The urinals and bed-pans should contain some antiseptic, as a 10 per cent carbolic solution, a solution of copper sulphate, or chlorinated lime. If the vessels are not metallic, a 1-500 solution of bichloride of mercury should be used. The antiseptic should be placed in the vessel before and not after using. Thoroughly mix the excreted matter with the antiseptic and allow it to stand awhile before emptying it. After a bowel movement or the passing of urine the parts should be cleansed with a 1-1000 bichloride of mercury solution in order that all infection may be destroyed and the risk to those in attendance on the patient minimized, or the liability of the patients reinfecting themselves avoided.

The reduction of temperature by means of drugs in typhoid fever is almost obsolete. I find that most physicians depend, and authorities on nursing recommend, that we should rely almost entirely on hydro-pathic measures. When the temperature is moderate, 102° F., or less, cold baths need not be given. The regular daily cleansing bath, with proper ventilation of the room, light bed-clothing and cooling drinks are all that is necessary. When the fever rises above 103° F., more vigorous means are demanded,—cold sponges, alcohol rubs, and cold packs are necessary. Cold tub baths in the average case are not practical.

The systematic use of baths has greatly reduced the mortality. Applications of cold not only reduce the fever but accomplish equally if not more important other results, such as quieting delirium, overcoming insomnia, steadying the pulse and heart, and improving respiration. It was said at one time that baths were contraindicated in hemorrhage and perforation of the bowels, but it has been established that these conditions do not contraindicate the giving of cold sponges if the temperature remain high. Plenty of water given internally also tends to lower the temperature by inducing sweating, thus losing heat by evaporation and through abundant urine.

There is one important condition which necessitates abstention from giving cold baths and that is a weak heart. When cold is first applied to the body the surface capillaries are generally contracted, the arterial tone is raised, and the blood accumulates in the deep organs. This places a sudden and extra labor on the heart and may cause dilation and sudden collapse.

In the use of external cold in the form of sponges, packs, etc., as an antipyretic measure, it is important that the temperature be not reduced lower than 100° F., because after the completion of the bath the tem-

perature usually falls a degree or more. If the temperature be kept above the normal there is no danger, but great care must be taken because, when the temperature is reduced below 100° F., it often falls very rapidly and collapse may follow. In applying cold by any method, surface reaction is of prime importance. If this does not take place soon after the completion of the bath, vigorous friction and rubbing are necessary. During the procedure the patient is not allowed, under any circumstances, to exert himself. It is very seldom necessary to give more than six baths in a day, each lasting not more than twenty or thirty minutes.

What should constitute the diet during the course of typhoid fever has been so well pointed out to us by the speaker preceding that I wish only to suggest a few things. With the majority of physicians it is agreed that the patient should have plenty of iced water, rendered so by placing ice around the container and not in it, and that milk should form the basis of the nourishment. It should be given in the form of buttermilk, milk with lime-water, or pasteurized milk. In addition to this, lemon albumin, weak tea, coffee, cocoa, beef tea, beef broth, gelatin, egg albumin water, and barley water are allowable, according to the orders of the attending physician. As a rule solid food should be withheld for ten days after the evening temperature has reached normal.

A case of typhoid fever without complications is rare, and I beg to call attention to a few of the most common ones that are left largely in the hands of the nurse for relief. Perhaps first among these are bed-sores, which may occur in all diseases in which prolonged rest in bed is necessary, and are very common in typhoid. They are due to interference with the circulation as the result of pressure, which cuts off the nutrition, a sore resulting. They occur most frequently over the bony prominences. Moisture acts as an exciting agent. Hard particles on the sheets, such as crumbs, creases in the bed-clothing, and depressions in the mattress tend to aggravate their formation. The treatment of this common complication is twofold; preventive and curative. Preventive measures must, of course, be used before the formation of the sores. Cleanliness and frequent change in the position are essential. A change of position is restful, also. Hardening of the skin is a most important preventive. This is augmented by bathing those parts of the body where bed-sores usually form with various hardening and astringent solutions, such as 50 per cent. alcohol to which has been added gum camphor one-half drachm, alum one drachm to each quart, or a solution consisting of whiskey and common salt, one drachm to eight ounces. Vinegar is very useful, or a simple and handy way is to take a slice of lemon and rub

this over the parts that might be affected, repeating daily. This will often prevent bed-sores when other methods fail. After sores are formed active treatment is necessary. The sores should first be cleaned with peroxide of hydrogen, or bichloride of mercury 1-5000, then dressed with some dusting powder as bismuth subnitrate, aristol, or some ointment, as a 10 per cent. to 25 per cent. ichthyol ointment.

The mouth should be kept scrupulously clean. A very good mouth wash is prepared as follows: boric acid 1 drachm, juice of 1 lemon, glycerine 1 ounce, and water enough to make 4 ounces. A 1-1000 solution of potassium permanganate makes an excellent wash.

Nausea and vomiting, although rare in typhoid, may occur. A mustard plaster placed over the pit of the stomach or an ice-bag on the epigastrium is very useful.

Diarrhœa is very common. When the bowel movements number more than six in twenty-four hours, active measures must be taken to stop it. Enemata of starch paste and laudanum, together with a mustard plaster applied to the epigastrium, are very useful. The diet should be reconsidered; probably the patient is receiving too much milk, or milk not sufficiently diluted. Meat juices and broths should be discontinued if they are being given, as they often cause the diarrhœa.

Turpentine is the best drug we have for tympanites. It may be used in three ways, by mouth, about which the attending physician will give instructions, by rectum, or locally to the abdomen, as stupes. The bowels should move at least once each day. After the first week, in the average case, it is advisable not to use cathartics but to resort to enemata.

Epistaxis may be very severe and persistent. It is best combatted by first applying warmth to the feet by means of hot-water bags or hot mustard foot-baths. Hot-water bags should always be applied to the back. Ice or cloths which have been on ice are applied to the base of the nose. Spray or douche the nose with vinegar or dilute lemon juice or with warm saline solution.

Intestinal hemorrhage occurs in about 5 per cent. of all cases and usually during the third week of the disease, the time when the sloughs of the ulcers are separating and the vessels are easily eroded. The onset is insidious, and without warning the patient passes into a very grave condition. The general signs of collapse are rapid fall of temperature even to subnormal, paleness of mucous and cutaneous surfaces, rapid, small and feeble pulse, sighing respirations, and if the patient be conscious he may greatly demand more air. Blood is passed by the bowels, although in some fatal cases the blood does not make its appearance in the form of a stool and the patient bleeds to death. The condition is

combated by a hypodermic injection of morphine and atropine, ice pack to the abdomen, perfect quiet, and elevation of the foot of the bed.

Perforation of the bowels is much more serious than the former complications and occurs in 6 per cent. of cases. Excessive tympanites predisposes the patient to this complication. It usually begins with a sudden sharp stabbing pain in the abdomen, followed by signs of collapse, rigidity of the abdominal walls, vomiting, abdominal tenderness and distention, and pinched expression. Here the nurse, alone, is much more helpless than in any other complication but some good may be done by a hypodermic of morphine and atropine, ice to the abdomen, and rapid preparation for the intervention of the surgeon.

During convalescence, responsibility is as great, if not greater, than that during the general course of the disease. As convalescence advances the visits of the physician become less and less and the responsibility of the nurse becomes greater and greater. The patient acquires a ravenous appetite and demands a greater amount of food, even making threats as to what he will do if an increased amount of diet be not forthcoming, and great vigilance on the part of the nurse is necessary.

Solid food, as has been suggested, should not be given until the temperature has been normal for ten days. In the meantime the diet can be varied with eggs in different forms, cereals, jellies, gruels, toasts, etc. Perforation of the bowel has occurred late in convalescence due to the eating of a chop. A rise in temperature may be due to a true relapse, constipation, an error in diet, or to mental excitement.

The patient should at first sit up in bed for a short time daily, then sit up in bed to eat his meals, and later to read or receive visitors. As he gains strength he may sit up in a chair for a short time, walking about the room, first aided and later unaided, and finally is allowed to assume charge of himself, the result of anxious hours on the part of the physician and nurse, for of all diseases with which we have to battle, in typhoid, "Persistence is the price of success."

A TYPHOID CASE.*

BY EMMA LONG, R.N.

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EVERY nurse knows the usual call to work—the ringing of the telephone, packing of a suitcase, the wonder as to how you shall find things, in this state the hunting up of time tables, the rush to the depot,

* Read at the second annual meeting of the North Dakota State Nurses' Association, Fargo, April 24, 1913.